REMARKS

This is in response to the Office Action that was mailed on November 3, 2004. Applicants gratefully acknowledge the indication of allowable subject matter. Claims 1-15 are cancelled and replaced by claims 16-30. Each of claims 16-30 corresponds to one of claims 1-15. Specifically, new claim 16 was former claim 1, 17 was 11, 18 was 13, 19 was 15, 20 was 5, 21 was 9, 22 was 7, 23 was 2, 24 was 12, 25 was 14, 26 was 3, 27 was 4, 28 was 6, 29 was 10, and new claim 30 was former claim 8. The purpose of this change is simply to re-order the claims in order to facilitate understanding. The present Amendment does not change the scope of the claims. No new matter is introduced by this Amendment. Since claims 16-30 are, in effect, identical overall to claims 1-15, no new issues are raised by this Amendment. Entry of this Amendment - in order to place the application into condition for allowance or into better condition for appeal - is respectfully solicited. With this Amendment, claims 16-30 are in the application.

THE INVENTION

Claims 16-22 herein relate to thermal spray spherical particles which have a sufficient breaking strength to remain uncollapsed in flame or plasma during spraying. More specifically, this embodiment of the present invention provides spherical particles that consist essentially of a yttrium- or lanthanide-

containing compound and that have a breaking strength of at least 10 MPa and an average particle diameter of 15 to 80 μm.

Claims 23-30 herein relate to thermal spray, high purity particles of rare earth-containing compounds that can be thermally sprayed to form a smooth, dense coating despite the high melting point of the rare earth-containing compounds, and without generation of fines. This embodiment of the invention provides spherical particles consisting essentially of yttrium- or lanthanide-containing compounds having a bulk density of at least 1.0 g/cm^3, an aspect ratio of up to 2, and a cumulative volume of pores with a radius of up to 1 μm which is less than 0.5 cm^3/g.

THE REJECTION

Claims 1, 2, and 4-15 were rejected under 35 U.S.C. §102(b) as being anticipated by US 5,061,560 (Tajima). Tajima discloses voidless rare earth oxide spherical grains containing about 0.01-1.0 parts by weight of a salt of an organic acid per 100 parts by weight of rare earth oxides. These grains have a mean grain diameter of from about 20-200 μm and are prepared by agglomerating a rare earth oxide powder, the particles of which have a mean diameter of about 1 μm or less. Applicants have provided a detailed discussion of the Tajima reference in the Amendment filed on August 13, 2004.

With respect to claims 23-30, Tajima fails to teach or suggest particles that consist essentially of a yttrium or lanthanide-containing compound and have a bulk density of at least 1.0 g/cm^3, an aspect ratio of up to 2, and a cumulative volume of pores with a radius of up to 1 μm which is less than 0.5 cm^3/g. At the top of page 4 of the Office Action, the Examiner alleges that "Applicants fail to specifically point out how the language of the claims patentably distinguishes them from the references". It is respectfully submitted that patentable distinction, while it may be relevant to an obviousness rejection under 35 U.S.C. §103, is not relevant to an anticipation rejection under 35 U.S.C. §102.

THE RULE 132 DECLARATION

Presented herewith is a DECLARATION under 37 CFR 1.132 of Takao MAEDA. The MAEDA DECLARATION demonstrates a significant difference between the materials disclosed by Tajima and the materials claimed herein. Even if one considers the starting powder material for the particles of the present invention to be the same as that for Tajima's particles, and even if average particle diameter and bulk density of the particles are similar, the breaking strength of the particles of the present invention is significantly higher than that of the Tajima particles. Specifically, for example, as demonstrated in the MAEDA DECLARATION, particles of the present invention having a breaking

strength of 13 MPa, while generally similar - but necessarily different - particles made in accordance with the Tajima disclosure have a breaking strength of less than 1 MPa. Thus the presently claimed particles are ***different in fact*** from the grains disclosed by Tajima. The Tajima reference fails to teach or suggest particles having a breaking strength of at least 10 MPa and an average particle diameter of 15 to 80 μm, as defined by claim 16.

SUMMARY AND CONCLUSION

Neither claims 16-22 herein nor claims 23-30 herein is drawn to material that is identical to material disclosed by Tajima. Accordingly, the Examiner has failed to state a sustainable rejection under 35 U.S.C. §102(b) against any of claims 16-30.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Richard Gallagher (Reg. No. 28,781) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees

required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By _____
Gerald M. Murphy, Jr., #28,977

RG

GMM/RG/jmb
0171-0829P

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000

Attachment: Declaration of Mr. Kazuhiro WATAYA et al.